

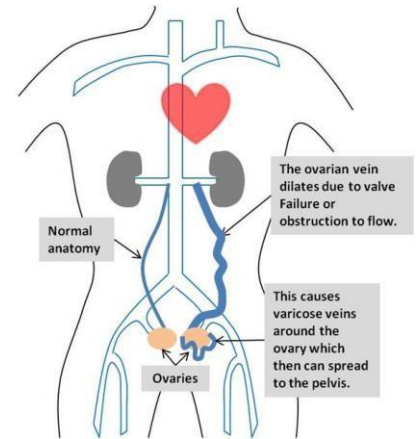


For more information please visit us online at: <http://www.osmh.on.ca/diagnostics/>

**If you or your support person do not clearly understand the procedure, please ask for clarification**

### KEY POINTS:

- Pelvic congestion syndrome (PCS) occurs when dilated pelvic veins cause blood to flow backward, leading to chronic pain.
- PCS may account for chronic pelvic pain in 13-40% of women.
- It is often underdiagnosed, making awareness and accurate diagnosis important.
- Embolization offers a minimally invasive treatment for PCS, performed under local anesthetic and avoiding the need for surgery.
- Up to 85% of women experience symptom relief after embolization.



### KEEP IN MIND:

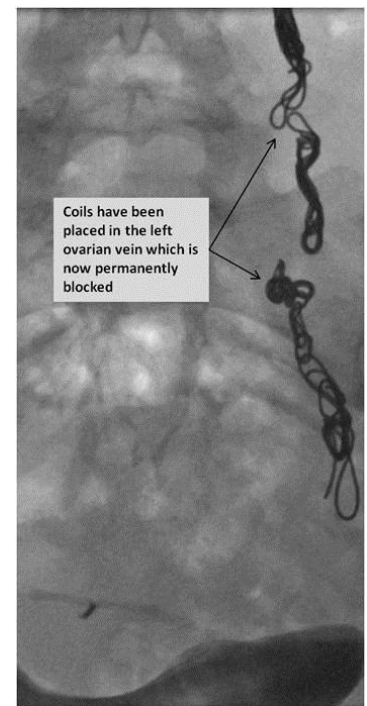
In some cases, a second procedure may be needed to address additional abnormal veins in the pelvis contributing to symptoms. **A follow-up imaging study and consultation with the interventional radiologist will be scheduled a few weeks after your procedure** to assess the results and determine if further embolization is required.

### PLEASE REMEMBER:

Please arrive at hospital registration by 8:30 AM on the day of your appointment. We will contact you with the scheduled date.

Let your medical team know if you have any of the following:

- An implanted device (e.g., stent, joint replacement, pacemaker, heart valve, or blood vessel graft)
- Allergies
- A regular prescription for blood thinners (e.g., warfarin, aspirin, clopidogrel, rivaroxaban, or dabigatran)
- A current or recent infection or fever



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## OVARIAN VEIN EMBOLIZATION

### What is it?

Ovarian vein embolization is a minimally invasive procedure used to treat *pelvic congestion syndrome*. This condition occurs when veins in the pelvis, often the ovarian veins, become enlarged and cause chronic pain. The procedure involves blocking these veins with small coils or a special liquid to stop abnormal blood flow, relieve pressure on surrounding tissues, and reduce symptoms. Ovarian vein embolization is performed under imaging guidance, requires no large incisions, and typically allows for a quick recovery. Most women (up to 85%) find they have an improvement within 2 weeks of the procedure.

### Why do I need it?

Reasons your doctor or healthcare provider may have ordered this procedure include:

- Chronic pelvic pain or aching
- Dragging sensation or pain in the pelvis
- Feeling of fullness in the legs
- Pain with intercourse
- Worsening of symptoms when standing or lifting, relieved by lying down
- Visible dilated veins in the vagina, vulva, or inner thigh
- Symptoms often worsen after childbirth
- Worsening of stress incontinence or irritable bowel syndrome symptoms
- Diagnosis can be suggested by ultrasound, CT, MRI, or venogram

### What are the alternatives?

**Observation:** Choosing not to undergo treatment and monitoring your symptoms.

**Medication:** Some women find relief from symptoms by taking specific medications, such as medroxyprogesterone acetate.

#### Surgery (options include):

- Removing or tying off abnormal veins to stop the backward blood flow.
- Hysterectomy (removal of the uterus), which may be recommended in some cases.

Surgery is more invasive, requires general anesthesia, is done in an operating room, and involves a longer recovery period.

### What are the potential risks?

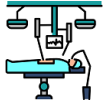
Potential risks to this procedure may include one or more of the following:

- **Allergic reaction:** A slight risk if contrast dye is used.
- **Infection:** A small risk of infection after the procedure.
- **Blood vessel damage:** Rare risks include damage to the vein (ovarian vein thrombophlebitis), bruising, or bleeding at the catheter insertion site.
- **Non-target embolization:** In rare cases, the embolic material may travel to the wrong area, affecting normal tissue.
- **Varicose vein recurrence:** There is up to a 10% chance of the varicose veins returning.
- **Radiation exposure:** The ovaries are exposed to radiation during the procedure, but no evidence suggests it impacts fertility or menstrual cycles.



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## HOW IS THE PROCEDURE PERFORMED?

### Before

For specific questions regarding the clinical need for this procedure, please contact your ordering provider.

#### Patient Preparation:

You should wear loose-fitting clothing that is easy to change out of. **You will need to arrange for someone to drive you home after you have recovered from the procedure.** One support person (spouse, friend, caregiver, family member) may accompany you on the day of your appointment, but not into the procedure room.

You may have clear fluids up to **four hours** before the procedure. Continue taking your morning medications, **except for blood thinners** (see next page), with a small sip of water.

Please bring a list of the medications you are currently taking and a list of any drug/medication allergies you may have.

Please phone the Diagnostic Imaging booking line at **705-327-9127 ext. 3505** for cancellations or rebooking if you are unable to attend your appointment.

**Notes / Questions** *(write down any notes or questions you may have for your doctor, healthcare practitioner, or the care team in Diagnostic Imaging on the day of your appointment. You can also use this space to write down a list of your current medications):*

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#### Bloodwork<sup>4</sup>

Bloodwork is **usually not needed** for this procedure.

However, it is required if you:

- Take Warfarin (Coumadin®)
- Have **prolonged bleeding**, risk of **thrombocytopenia** or **known thrombocytopenia**

If the above applies to you then your doctor will order:

- INR (must be  $\leq 2.5$ ,  $\leq 2.0$  for ports or tunneled catheters)
- PTT
- CBC (platelets must be  $\geq 20 \times 10^9/L$  or greater)

The bloodwork results must be current within **4 weeks of the procedure**.

**If you take Warfarin (Coumadin)**, you'll need a new INR drawn **the day before** your procedure.

**Important:** Missing bloodwork may delay or reschedule your appointment.

#### Blood Thinners / Anticoagulants / Antiplatelets Medications<sup>4</sup>

Stop the listed medications as per the below schedule before your procedure unless instructed otherwise. If unsure, then consult your doctor or healthcare provider about which medications to pause, for how long, when to restart them, and any concerns you may have.

| Medication   | Withholding  | When to Stop  | Restart After                                     |
|--|--------------|---|---|
| Coumadin® (Warfarin)*/**   | Based on INR | Based on INR  | NA or same day re-initiation for bridged patients |
| Cangrelor (Kengreal)   | Yes          | Defer procedure until off medication; if procedure is emergent, withhold 1 h before procedure | multidisciplinary decision making                 |
| Abciximab (ReoPro)   | Yes          | Withhold 24 h before procedure  | multidisciplinary decision making                 |
| eptifibatide (Integrilin)<br>tirofiban (Aggrastat)                               | Yes          | 4–8 h before procedure  | multidisciplinary decision making                 |
| * consider bridging with heparin (need admission) for high thrombosis risk cases |              |   |   |
| ** consider using reversal agent if emergent or STAT                             |              |   |   |

#### Important Notes

- Patients on Warfarin (Coumadin®) need an **INR** test the **day before** the procedure.
- Those with **prosthetic valves**, **prior clots**, or **stroke-related atrial fibrillation** may need bridging therapy to prevent thrombosis.
- **Do not** stop blood thinners if you have **coronary or brain stents**—consult your doctor first.
- If anticoagulation is stopped, your doctor must provide instructions.
- Applies only to elective procedures, not emergencies.



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### Coming To The Hospital

You must first sign-in with **Centralized Patient Scheduling & Registration (CPSR)**, which is located immediately to your left when you enter the hospital from the main entrance (off Dunlop Street, across from the gift shop). You'll receive a wristband and, for new tube insertions, be directed to **Day Surgery**. They'll prepare you and take you to **Diagnostic Imaging** at your scheduled time.

**Please bring to the hospital your OHIP card and a list of current medications you are taking.**

You may also bring a book, water, phone/tablet with earphones, and a snack in a small bag for when you are recovering from the procedure.

### During

This procedure is performed in the Interventional Radiology Department of Diagnostic Imaging.

**The duration of your appointment time will vary from 1 hour – 3 hours.**

**You will recover in the Post Anesthesia Care Unit (PACU) for another 1 hour – 2 hours.**

1. You will change into a hospital gown and lie on your back on a fluoroscopy table.
2. A medical radiation and imaging technologist (MRIT) will explain the procedure and answer any questions you have.
3. The procedure is performed under sterile conditions. Your neck or groin (depending on the vein to be treated) will be cleaned with a hospital-approved cleansing agent, and sterile drapes will be applied.
4. You will be awake for the procedure but will receive pain medication and a local anesthetic (Lidocaine) to numb the area.
5. Once the area is numb, the interventional radiologist will insert a needle into a large vein, guided by ultrasound and x-rays.
6. A thin wire and catheter (narrow tube) will be inserted through the vein and guided to the enlarged pelvic veins under x-ray imaging.
7. Once in position, the radiologist will inject coils or a special liquid to block the abnormal veins, stopping the backward blood flow.
8. Additional x-rays will be taken to confirm the veins are fully blocked. You will not feel the catheter or wires moving inside your veins.
9. After treatment, the catheter will be removed, and the radiologist will apply firm pressure to the puncture site to prevent bleeding. A closure device or dressing may also be applied.
10. You will recover in the Post-Anesthesia Care Unit (PACU) and be discharged once you meet recovery criteria. In some cases, an overnight hospital stay may be needed for observation.

### WHAT TO EXPECT AFTER<sup>1,2,3</sup>



#### Recovery & Going Home

You will be sent to the **Post Anesthesia Care Unit (PACU)** to recover from the procedure. A nurse will monitor your blood pressure, pulse, and the puncture site to ensure there is no bleeding. You will rest in bed for about an hour, and most patients go home the same day. In rare cases, an overnight stay may be required. This possibility will be discussed with you at the time of your consultation appointment.

**You will need someone to drive you home after the procedure.** Don't drive for the next 24 hours or while you're taking strong pain medicine. If you were given medication to help you relax or manage pain during the procedure, then you cannot drive for the next 24 hours.



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#### Diet & Activity

- Rest for the remainder of the day. Sleep when you feel tired.
- Have an adult family member, caregiver, or friend stay with you the night after the procedure in case you need help.
- Resume your normal diet after 24 hours, but if you feel nauseous, try bland, low-fat foods like rice, chicken, toast, or yogurt.
- You may resume light activities after 24 hours.
- Avoid lifting anything heavier than 4.5 kilograms (10 pounds) or straining on the toilet for 48 hours.
- Do not participate in sports or strenuous activity.
- You can bathe or shower whenever you feel ready.
- Gradually increase your physical activity as you feel comfortable.
- Depending on your job, you can return to work when you feel ready.
- Check your temperature twice daily for the next five days.
- If you were given antibiotics or pain medication, take them as directed. Some pain is normal.

**Please discuss with the radiologist anything you should avoid or not participate in after this procedure**



#### Wound Care

- You will have a standard bandage / dressing covering the insertion site of your procedure
- It is normal to feel soreness in the area of the insertion site for 2 – 3 days.
- Keep a dressing / bandage over the insertion site for the first day.
- After 24 hours you should change the dressing / bandage. You may replace it with a Band-Aid that is big enough to cover the insertion site from the catheter.
- It is important to keep the insertion site clean and dry.
- Your insertion site should stay soft and dry as it heals. If you notice minor bleeding:
  1. Lie flat immediately.
  2. Apply **firm pressure** with a clean cloth or tissue for **15 minutes**. If possible, have someone else help.
  3. After 15 minutes, the site should be dry and flat. Cover it with a bandage.
  4. Notify your physician right away. If bleeding does not stop then go to the Emergency Department of the nearest hospital.



#### Bathing

- You can shower or bathe normally after 24 hours as, as long as the insertion site is scabbed over or closed.
- Be gentle as you wash over this area of your body.

**Talk to the interventional radiologist about bathing techniques if you have concerns.**



#### Medication

- **Fill the prescriptions that were given to you and follow the instructions on the labels carefully.**
- **If your doctor or healthcare provider advised you to stop any medications for this procedure then consult with them first about the safety of when you can start your medications again;**
- Otherwise, resume your normal medication schedule.
- If you **normally** take acetylsalicylic acid (Aspirin™) or another blood thinner medication, ask your doctor or healthcare provider when to start taking it again. Make sure that you understand exactly what they want you to do;
- Otherwise, **do not** take (Aspirin™) or anti-inflammatory medicines (ex: ibuprofen) for **1 week** after the procedure.
- Over-the-counter pain relievers like **Tylenol** can help ease any discomfort.



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### WHEN TO SEEK HELP<sup>3</sup>



#### Call 911:

If you believe you require emergency care – **call 911**. Reasons to call 911 include:

- You have passed out (lose consciousness), or become very dizzy, weak, or less alert
- You have severe trouble breathing
- You have a fast or uneven pulse
- You experience sudden chest pain and shortness of breath
- Significant bleeding from the puncture site (i.e. bright red blood that won't stop)
- Continuous profuse blood streaming from the wound
- A jet of blood pumping from the puncture wound
- Quickly increasing swelling of the area around the wound, which may be pulsating



#### Call your doctor, healthcare provider, or Health Connect Ontario immediately if you experience:

- Increased pain, swelling, warmth, or redness at the procedure site
- Redness or warmth around the procedure site or pus or blood draining from the procedure site
- Your access arm or hand is pale, painful, or cold during treatment
- A fever (more than 100°F / 38°C)
- Chills, with or without fever
- Bright red blood has soaked through the bandage / dressing over the procedure site.
- You have bleeding from your access site that does not stop after 15 - 20 minutes of gentle pressure.
- You have new or worse pain at the procedure site.
- You are vomiting, or have new or worse nausea and/or vomiting
- Pain or cramping in the abdomen not relieved by pain medication
- Redness or red streaks around the skin wound
- Bleeding, pain or drainage at the puncture site
- Calf tenderness or pain
- Numbness or tingling in the foot, thigh or leg (groin puncture), or numbness or tingling in the hand, forearm or upper arm (neck puncture)
- Swelling of the ankle and/or foot (groin puncture) or swelling of the arm or neck (neck puncture)
- Increased bruising extending beyond the puncture site
- Colour change and/or coolness of the leg or foot (groin puncture) or arm or neck (neck puncture)

**Health Connect Ontario may be reached 24-hours a day, including weekends, by:**

- Calling 8-1-1
- Calling 1-866-797-0007 (TTY – teletypewriter service)
- Visiting <https://healthconnectontario.health.gov.on.ca/> and selecting “Chat with us”

**BRING THIS INFORMATION PACKAGE WITH YOU SHOULD YOU URGENTLY NEED TO SEE YOUR DOCTOR OR GO TO THE EMERGENCY DEPARTMENT OF YOUR NEAREST HOSPITAL.**

*Use this material for your information only. It does not replace advice from your doctor or other health care professionals. Do not use this information for diagnosis or treatment. Consult with your health care provider about a specific medical condition.*

#### References:

1. Catheter Embolization. Accessed October 9, 2024. RadiologyInfo.org. <https://www.radiologyinfo.org/en/info/cathembol>
2. Endovascular Embolization. Access October 9, 2024. Lexi-Comp Online. <https://online.lexi.com/>
3. Bland Embolization Patient Education. Accessed October 9, 2024. Northwestern Medicine. <https://www.nm.org/patients-and-visitors/patient-education/hematology-oncology/bland-embolization-patient-education>
4. Patel et al. Society of Interventional Radiology Consensus Guidelines for the Periprocedural Management of Thrombotic and Bleeding Risk in Patients Undergoing Percutaneous Image-Guided Interventions—Part II: Recommendations. JVIR 2019; 30:1168–1184.

Adapted from the British Society of Interventional Radiology: <https://www.bsir.org/patients/pelvic-venous-congestion-syndrome/>

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